

REMARKS

By this Amendment, Claim 1 is amended, Claims (6-7) are canceled, and no new claims are added.

I. Claim Rejections - 35 U.S.C. §103(a)

The Examiner has rejected Claims 1-4, 9-10, 15-17, 19-21, 23, 27-29, and 31-33 under 35 U.S.C. 103(a) as being unpatentable over M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167) further in view of Sang-Yun Lee et al, Journal of Electrochemical Society, 150(1) G58-G61 (2003), here after Lee.

The Applicants have amended Claim 1 to more recite that their invention includes:

“modifying a top surface of the deposited TERA layer by exposing the deposited TERA layer to a post-processing plasma, wherein the post-processing plasma is created using a hydrogen-containing gas, wherein a photoresist-compatible surface is created on the top of TERA layer to prevent the formation of a photoresist foot during a subsequent lithographic operation”.

The Applicants believe that the cited art does not teach a post-processing plasma that is created using a hydrogen-containing gas, and therefore the Applicants believe that amended claim 1 is patentable over the cited art.

The Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 103(a)” rejection of Claims 1-3, 9-10, 15-17, 19-21, 23, 27-29, and 31-33 should be withdrawn because amended Claim 1 is patentable over 167 and Lee. In addition, Claims 2-3, 9-10, 15-17, 19-21, 23, 27-29, and 31-33 are dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is patentable over 167 and Lee.

The Applicants have canceled Claim 4 rendering the rejection of Claim 4 moot.

The Examiner has rejected Claims 11-12, and 18, 25-26 under 35 U.S.C. 103(a) as being unpatentable over M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167) further in view of Sang-Yun Lee et al, Journal of Electrochemical Society, 150(1) G58-G61 (2003), here after Lee, further in view of Hounng T. Nguyen et al (U. S. Patent application: 2003/0017694, here after 694).

The Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 103(a)” rejection of Claims 11-12, and 18, 25-26 should be withdrawn because Claims 11-12, and 18, 25-26 are dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is patentable over 167, Lee, and 694.

The Examiner has rejected Claim 30 under 35 U.S.C. 103(a) as being unpatentable over M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167) further in view of Sang-Yun Lee et al, Journal of Electrochemical Society, 150(1) G58-G61 (2003), here after Lee, further in view of A. Grill, Journal of Applied Physics, Vol. 93 (2003) 1785-1 790, here after Grill.

The Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 103(a)” rejection of Claim 30 should be withdrawn because Claim 30 is dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is patentable over 167, Lee, and Grill.

The Examiner has rejected Claims 5-7 under 35 U.S.C. 103(a) as being unpatentable over M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167) further in view of Sang-Yun Lee et al, Journal of Electrochemical Society, 150(1) G58-G61 (2003), here after Lee, further in view of Atsuchi Hiraiwa et al (U. S. patent: 2004/0147137, here after 137).

The Applicants have canceled Claim 5 rendering the rejection of Claim 5 moot.

The Applicants have amended Claims 1, 6, and 7 to more clearly recite the invention and believe this “35 U.S.C. 103(a)” rejection of Claims 6 and 7 should be withdrawn because amended Claims 6 and 7 are dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is patentable over 167, Lee, and 137.

The Examiner has rejected Claims 8, 13-14 and 24 under 35 U.S.C. 103(a) as being unpatentable over M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167) further in view of Sang-Yun Lee et al, Journal of Electrochemical Society, 150(1) G58-G61 (2003), here after Lee, further in view of Seon Mee Cho et al (U. S. Patent Application: 2003/0003768, here after Cho).

The Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 103(a)” rejection of Claims 8, 13-14 and 24 should be withdrawn because Claims 8, 13-14 and 24 are dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is patentable over 167, Lee, and Cho.

The Examiner has rejected Claim 22 under 35 U.S.C. 103(a) as being unpatentable over M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167) further in view of Sang-Yun Lee et al, Journal of Electrochemical Society, 150(1) G58-G61 (2003), here after Lee, further in view of Craig A. Roderick (U. S. Patent: 6074488, here after 488).

The Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 103(a)” rejection of Claim 22 should be withdrawn because Claim 22 is dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is patentable over 167, Lee, and 488.

The Examiner has rejected Claims 34-35 under 35 U.S.C. 103(a) as being unpatentable over M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167) further in view of Sang-Yun Lee et al, Journal of Electrochemical Society, 150(1) G58-G61 (2003), here after Lee, further in view of Tae K. Won (U. S. Patent Application: 2003/0044621, here after Won).

The Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 103(a)” rejection of Claims 34-35 should be withdrawn because Claims 34-35 are dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is patentable over 167, Lee, and Won.

The Examiner has rejected Claims 36-37 under 35 U.S.C. 103(a) as being unpatentable over M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167) further in view of Sang-Yun Lee et al, Journal of Electrochemical Society, 150(1) G58-G61

(2003), here after Lee, further in view of Zheng Yuan (U. S. Application: 2002/0163028, here after Yuan).

The Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 103(a)” rejection of Claims 36-37 should be withdrawn because Claims 36-37 are dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is patentable over 167, Lee, and Yuan.

The Examiner has rejected Claim 38 under 35 U.S.C. 103(a) as being unpatentable over M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167) further in view of Sang-Yun Lee et al, Journal of Electrochemical Society, 150(1) G58-G61 (2003), here after Lee, further in view of Enzo Carollo (U. S. Patent Application: 2004/0137169, here after Carollo).

The Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 103(a)” rejection of Claim 38 should be withdrawn because Claim 38 is dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is patentable over 167, Lee, and Carollo.

The Examiner has rejected Claims 40 and 43 under 35 U.S.C. 103(a) as being unpatentable over M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167) further in view of Sang-Yun Lee et al, Journal of Electrochemical Society, 150(1) G58-G61 (2003), here after Lee, further in view of Yuan-Ko Hwang et al (U. S. patent: 6238160, here after Hwang).

The Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 103(a)” rejection of Claims 40 and 43 should be withdrawn because Claims 40 and 43 are dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is patentable over 167, Lee, and Hwang.

The Examiner has rejected Claims 41-42 under 35 U.S.C. 103(a) as being unpatentable over M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167) further in view of Sang-Yun Lee et al, Journal of Electrochemical Society, 150(1) G58-G61 (2003), here after Lee, further in view of Dan Maydan et. al. (U. S. Patent: 4951601, here after Maydan).

The Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 103(a)” rejection of Claims 41-42 should be withdrawn because Claims 41-42 are dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is patentable over 167, Lee, and Maydan.

The Examiner has rejected Claim 39 under 35 U.S.C. 103(a) as being unpatentable over M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167) further in view of Sang-Yun Lee et al, Journal of Electrochemical Society, 150(1) G58-G61 (2003), here after Lee, further in view of Enzo Carollo (U. S. Patent; 6953609, here after Carollo) and S. Avanzino, et. al. (U. S. Patent: 5776834, here after 834).

The Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 103(a)” rejection of Claim 39 should be withdrawn because Claim 39 is dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is patentable over 167, Lee, Carollo, and 834.

The Applicants believe that the Examiner’s “35 U.S.C. 103(a)” rejections are based on improper hindsight reasoning and are improper because the Examiner is using “knowledge gleaned only from applicant’s disclosure” to make the rejections. In re McLaughlin 443 F.2d 1392, 1395, 170 USPQ 209, 212 (CCPA 1971).

Each of the Examiner’s rejections having been addressed, the Applicants respectfully submit that Claims 1-3 and 6-43 are now in a condition for allowance. Given the above remarks, independent claim 1, as amended, is now in condition for allowance. The dependent claims 2-3 and 6-43 are similarly in condition for allowance as they incorporate limitations from independent claim 1. In light of the comments above, the Applicant respectfully requests the allowance of claims 1-3 and claims 6-43.

If the undersigned agent has overlooked a teaching in any of the cited references that is relevant to the Allowability of the claims, the Examiner is requested to specifically point out where such teaching may be found. Further, if there are any

informalities or questions that can be addressed via telephone, the Examiner is encouraged to contact the undersigned agent at 480-539-2105 or by email at jim.kleotka@us.tel.com.

Charge Deposit Account

Please charge our Deposit Account No. 50-3451 for any additional fee(s) that may be due in this matter, and please credit the same deposit account for any overpayment.

Respectfully submitted,

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